VOSH PROGRAM DIRECTIVE: **12-419G** **ISSUED**: **01 December 2016**

Subject **Amendments to the Air Contaminants Standards**

Purpose **CHANGE I** transmits to field personnel two amendments to the Air Contaminants Standard, § 1910.1000. The first amendment results from the final regulation concerning the Occupational Exposure to 1,3-Butadiene, §1910.1051 (61 FR 56746, November 4, 1997). The second amendment is a result of the final regulation concerning the Occupational Exposure to Methylene Chloride, §1910.1052 which was published in the Federal Register on January 10, 1997 (62 FR 1496). **CHANGE II** corrects typographical errors and incorrect entries in the standard. **CHANGE III** transmits amendments to the Air Contaminants standards which resulted from the recent final rule on the Occupational Exposure to Respirable Crystalline Silica, published on March 25, 2016 (81 FR 16285).

This Program Directive is an internal guideline, not a statutory or regulatory rule, and is intended to provide instructions to VOSH personnel regarding internal operation of the Virginia Occupational Safety and Health Program and is solely for the benefit of the program. This document is not subject to the Virginia Register Act or the Administrative Process Act; it does not have general application and is not being enforced as having the force of law.

Scope This Directive applies VOSH-wide.

Reference

CHANGE I:	61 FR 56746 (*4 November 1996*)
	62 FR 1496 (*10 January 1997*)
CHANGE II:	62 FR 42018 (*4 August 1997*)
CHANGE III:	81 FR 16285 (25 March 2016)

Cancellation VOSH PD 12-419F (*15 March 1998*)

Effective Date

CHANGE I:	*15 July 1997*
CHANGE II:	*15 December 1997*
CHANGE III:	*01 December 2016*

Expiration Date Not Applicable

Action Directors and Managers shall ensure that field personnel review and understand the standard in this Directive.

C. Ray Davenport
Commissioner

Distribution:

Commissioner of Labor and Industry
Assistant Commissioner
VOSH Directors and Managers
VOSH Legal Support & IMIS Staffs
Director of Cooperative Programs
VOSH Compliance & Cooperative Programs Staffs
OSHA Region III & OSHA Norfolk Area Offices

I. BACKGROUND

CHANGE I: The basis for the first amendment to the Air Contaminants standard, § 1910.1000, was the publication of federal OSHA's new final rule on 1,3-Butadiene (BD), General Industry, § 1910.1051, on November 4, 1996. This standard reduced the permissible exposure limit (PEL) from concentrations up to 1,000 parts 1,3-Butadiene per million parts of air (1,000) as an eight-hour time-weighted average (TWA) to an 8-hour TWA of 1 ppm and a short term exposure limit (STEL) of 5 ppm for 15 minutes.

The second amendment to the Air Contaminants standard resulted from the publication of federal OSHA's final rule for the Occupational Exposure to Methylene Chloride (MC), § 1910.1052, on January 10, 1997. This amendment reduced the existing eight-hour TWA PEL from 500 parts MC per million parts (ppm) and reduced the existing short-term exposure limit from 2,000 ppm (measured over 5 minutes in any 2 hour period) to 125 ppm, measured as a 15-minute TWA.

On April 7, 1997, the Safety and Health Codes Board adopted these amendments to the Air Contaminants standard, §1910.1000, with an effective date of July 15, 1997.

CHANGE II: Federal OSHA published revisions to the amended Air Contaminants Standard, § 1910.1000, on June 30, 1993 (58 FR 35338) in response to the Court of Appeals decision in *AFL-CIO v. OSHA*, 965 F.2d 962 (11th Circuit, 1992). These revisions corrected typographical errors and incorrect entries in Tables Z-1 and Z-3 of §1910.1000.

On September 29, 1997, the Safety and Health Codes Board adopted these revisions with an effective date of December 15, 1997.

CHANGE III: On March 26, 2016, federal OSHA published its new final rule for the Occupational Exposure to Respirable Crystalline Silica (81 FR 16285). This change also impacted §1910.1000, Air Contaminants in General Industry, and §1915.1000, Air Contaminants for Shipyard Employment.

On September 13, 2016, the Safety and Health Codes Board adopted these revisions with an effective date of December 1, 2016.

II. SUMMARY

CHANGE I: In the first amendment, Table Z-1 of the Air Contaminants standard was amended to reflect changes resulting from the final rule for the Occupational Exposure to 1,3-Butadiene (BD), § 1910.1051. These changes include revising the Butadiene entry so that it reads as follows: "Butadiene (1,3-Butadiene); See 29 CFR 1910.1051; 29 CFR 1910.19(l)."

In the second amendment, the entire entry for Methylene Chloride (Z37.23-1969) was removed from Table Z-2 of the Air Contaminants standard and replaced with the following entry in the substance column: "Methylene chloride: see § 1910.1052."

CHANGE II: Typographical errors were corrected in Table Z-1, Limits for Air Contaminants, and in Table Z-3, Mineral Dusts. The corrections are as follows:

- For one group of substances, Cyanides, OSHA inadvertently omitted the "x" notation in the "skin designation" column to indicate that the substance is absorbed through the skin.

- In the entry for "1,2-Dibromo-3-chloropropane (CBCP); see 1910.1044", the parenthetical "(CBCP)" in the "Substance" column is revised to read "(DBCP)".

- For two substances, Endosulfan and Perlite (respirable and total dust), the entries and their corresponding PELs should be deleted.

  These entries, including their respective PELs, are a carryover from the 1989 Air Contaminants Standard which was vacated by the U.S. Court of Appeals, Eleventh Circuit. The substance, Endosulfan, was not listed in the air contaminant tables when OSHA adopted the consensus standards on May 29, 1971 (36 FR 10466) and, consequently, is not currently regulated. With respect to Perlite, OSHA formerly regulated Perlite under the generic nuisance dust limits of 15 mg/m^3 total dust and $5mg/m^3$ respirable fraction. Consequently, Perlite is currently regulated under the entry "particulates not otherwise regulated" which is the current nomenclature for what was formerly referred to as "nuisance dust."

- In the entry for "2,4,6-Trinitrophenyl; see Picric acid", the word "Trinitrophenyl" is revised to read "Trinitrophenol".

- The exposure limit for Uranium insoluble compounds is incorrectly listed as 0.05 mg/m^3. It should be listed as 0.25 mg/m^3.

- The formula for the PEL for coal dust with less than 5% quartz (respirable fraction) is incorrectly listed as:

  "2.4 mg/m^{3e}"

  $\%SiO_2 + 2$ It should read: "2.4 mg/m^{3e}".

CHANGE III: Paragraph (e) of §1910.1000, Air Contaminants, was revised with the publication of the final rule for the Occupational Exposure to Respirable Crystalline Silica (81 FR 16285) on March 25, 2016. This change revised entries for crystalline silica in §1910.1000, Table Z-1, to cross-reference the new Respirable Crystalline Silica Standard, §1910.1053. Additionally, a comparable revision to Table Z of §1915.1000, Shipyards, was included to cross-reference §1910.1053. Footnotes were added in §§1910.1000 and 1915.1000 to make clear that preceding PELs apply to any sectors or operations where the new PEL of 50 $\mu g/m^3$ is not in effect. The preceding PELs for respirable crystalline silica were retained in Table Z-3 of §1910.1000 and in Table Z of §1915.1000 and are also applicable during the time between publication of the silica rule and the dates established for compliance with the rule, as well as in the event of regulatory delay, a stay, or partial or full invalidation by the Court.

To access these amendments which appear in the Final Rule for the Occupational Exposure to Respirable Crystalline Silica, Parts 1910, 1915, and 1926; Final Rule; and Other Related Standards, please click on the link below:

https://www.gpo.gov/fdsys/pkg/FR-2016-03-25/pdf/2016-04800.pdf

AIR CONTAMINANTS STANDARD, § 1910.000; AMENDMENTS

As Adopted by the

Safety and Health Codes Board

Date: April 7, 1997

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTENT OF LABOR AND INDUSTRY

Effective Date: July 15, 1997

16VAC25-90-1910.1000, Amendment to Air Contaminants, General Industry, § 1910.1000

When the regulations, as set forth in the amendments to the Air Contaminants standard, § 1910.1000, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following federal terms shall be considered to read as below:

Federal Terms	VOSH Equivalent
29 CFR	VOSH Standard
Assistant Secretary	Commissioner of Labor and Industry
Agency	Department
February 3, 1997	July 15, 1997
April 10, 1997	July 15, 1997

AIR CONTAMINANTS STANDARD, § 1910.000; AMENDMENTS

As Adopted by the

Safety and Health Codes Board

Date: September 29, 1997

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTENT OF LABOR AND INDUSTRY

Effective Date: December 15, 1997

16VAC25-90-1910.1000, Amendment to Air Contaminants, General Industry, § 1910.1000

When the regulations, as set forth in the amendments to the Air Contaminants standard, § 1910.1000, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following federal terms shall be considered to read as below:

Federal Terms	VOSH Equivalent
29 CFR	VOSH Standard
Assistant Secretary	Commissioner of Labor and Industry
Agency	Department
September 3, 1997	December 15, 1997

Occupational Exposure to Respirable Crystalline Silica,
Parts 1910, 1915, and 1926; Final Rule; and
Other Related Standards

As Adopted by the

Safety and Health Codes Board

Date: September 13, 2016

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

VIRGINIA OCCUPATIONAL SAFETY AND HEALTH PROGRAM

VIRGINIA DEPARTMENT OF LABOR AND INDUSTRY

Effective Date: December 1, 2016

16VAC25-90-1910.1053, Respirable Crystalline Silica, §1910.1053;
16VAC25-90-1910.1000, Air Contaminants, §1910.1000;
16VAC25-100-1915.1000, Air Contaminants, §1915.1000;
16VAC25-100-1915.1053, Respirable Crystalline Silica, §1915.1053;
16VAC25-175-1926.1153, Respirable Crystalline Silica, §1926.1153; and
16VAC25-175-1926.55, Gases, Vapors, Fumes, Dusts, and Mists, §1926.55

When the regulations, as set forth in the Final Rule on the Occupational Exposure to Crystalline Silica, Parts 1910, 1915, and 1926 and Other Related Standards, are applied to the Commissioner of the Department of Labor and Industry and/or to Virginia employers, the following federal terms shall be considered to read as below:

Federal Terms	VOSH Equivalent
OSHA	VOSH
Federal Agency	State Agency
Agency	Department
Regional Administrator	Assistant Commissioner
Area Director	Regional Director VOSH Program Director
Regional Solicitor	Attorney General or VOSH Division of Legal Support (DLS)
Office of Statistics	VOSH Research and Analysis
29 CFR	VOSH Standard
Compliance Safety and Health Officer (CSHO)	CSHO

Federal Terms	VOSH Equivalent
29 CFR	VOSH Standard
Assistant Secretary	Commissioner of Labor and Industry
Agency	Department
Federal Effective Dates	**VOSH Effective Dates**
June 23, 2016	*December 1, 2016*

Amendments to Standards

For the reasons set forth in the preamble, 29 CFR parts 1910, 1915, and 1926, of the Code of Federal Regulations are amended as follows:

PART 1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS

Subpart Z—[Amended]

■ 2. In § 1910.1000, paragraph (e):

■ a. Amend Table Z–1—Limits on Air Contaminants by:

■ i. Revising the entries for ''Silica, crystalline cristobalite, respirable dust''; ''Silica, crystalline quartz, respirable dust''; Silica, crystalline tripoli (as quartz), respirable dust''; and ''Silica, crystalline tridymite, respirable dust''; and

■ ii. Adding footnote 7.

■ b. Amend Table Z–3–Mineral Dusts by:

■ i. Revising the entries for ''Silica: Crystalline Quartz (Respirable)'', ''Silica: Crystalline Cristobalite'', and ''Silica: Crystalline Tridymite'';

■ ii. Removing entries in columns 1, 2, and 3 for ''Silica: Crystalline Quartz (Total Dust)'' and

■ iii. Adding footnote f.

The revisions and addition read as follows:

§ 1910.1000 Air contaminants.

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The revisions and addition read as follows:

§ 1910.1000 Air contaminants.

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TABLE Z–1—LIMITS FOR AIR CONTAMINANTS

Substance	CAS No. (c)	ppm(a) [1]	mg/m³(b) [1]	Skin designation
* * * *	*	*	*	*
Silica, crystalline, respirable dust				
Cristobalite; see 1910.1053 [7]	14464–46–1			
Quartz; see 1910.1053 [7]	14808–60–7			
Tripoli (as quartz); see 1910.1053 [7]	1317–95–9			
Tridymite; see 1910.1053 [7]	15468–32–3			
* * * *	*	*	*	*

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[1] The PELs are 8-hour TWAs unless otherwise noted; a (C) designation denotes a ceiling limit. They are to be determined from breathing-zone air samples.

(a) Parts of vapor or gas per million parts of contaminated air by volume at 25 °C and 760 torr.

(b) Milligrams of substance per cubic meter of air. When entry is in this column only, the value is exact; when listed with a ppm entry, it is approximate.

(c) The CAS number is for information only. Enforcement is based on the substance name. For an entry covering more than one metal compound, measured as the metal, the CAS number for the metal is given—not CAS numbers for the individual compounds.

(d) The final benzene standard in 1910.1028 applies to all occupational exposures to benzene except in some circumstances the distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures; for the excepted subsegments, the benzene limits in Table Z–2 apply. See 1910.1028 for specific circumstances.

(e) This 8-hour TWA applies to respirable dust as measured by a vertical elutriator cotton dust sampler or equivalent instrument. The time-weighted average applies to the cottom waste processing operations of waste recycling (sorting, blending, cleaning and willowing) and garnetting. See also 1910.1043 for cotton dust limits applicable to other sectors.

(f) All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z–3.

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[3] See Table Z–3.

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[7] See Table Z–3 for the exposure limit for any operations or sectors where the exposure limit in § 1910.1053 is stayed or is otherwise not in effect.

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TABLE Z–3—MINERAL DUSTS

Substance	mppcf [a]	mg/m³
Silica:		
Crystalline		

TABLE Z–3—MINERAL DUSTS—Continued

Substance	mppcf [a]	mg/m^3
Quartz (Respirable) [f]	250 [b] / %SiO_2+5	10 mg/m^3 [e] / % SiO_2+2
Cristobalite: Use ½ the value calculated from the count or mass formulae for quartz [f]		
Tridymite: Use ½ the value calculated from the formulae for quartz [f]		
* * * * * * *		
* * * * * * *		

[a] Millions of particles per cubic foot of air, based on impinger samples counted by light-field techniques.

[b] The percentage of crystalline silica in the formula is the amount determined from airborne samples, except in those instances in which other methods have been shown to be applicable.

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[e] Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size-selector with the following characteristics:

Aerodynamic diameter (unit density sphere)	Percent passing selector
2	90
2.5	75
3.5	50
5.0	25
10	0

The measurements under this note refer to the use of an AEC (now NRC) instrument. The respirable fraction of coal dust is determined with an MRE; the figure corresponding to that of 2.4 mg/m^3 in the table for coal dust is 4.5 mg/m^{3K}.

[f] This standard applies to any operations or sectors for which the respirable crystalline silica standard, 1910.1053, is stayed or is otherwise not in effect.

BILLING CODE 4510–26–C

PART 1915—OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR SHIPYARD EMPLOYMENT

■ 6. In § 1915.1000, amend Table Z by:

■ a. Revising the entries for ''Silica, crystalline cristobalite, respirable dust'', ''Silica, crystalline quartz, respirable

dust", "Silica, crystalline tripoli (as quartz), respirable dust", and "Silica, crystalline tridymite, respirable dust";

■ b. Under the "MINERAL DUSTS" heading of the table, revising the entry for "Silica: Cystalline Quartz";
■ c. Adding footnote 5; and
■ d. Add footnote p.

The revisions and additions should read as follows:

§ 1915.1000 Air contaminants.

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TABLE Z—SHIPYARDS

Substance	CAS No.[d]	ppm[a] *	mg/m[3] [b] *	Skin designation
* * * * *	*	*	*	*
Silica, crystalline, respirable dust				
Cristobalite; see 1915.1053	14464–46–1			
Quartz; see 1915.1053[5]	14808–60–7			
Tripoli (as quartz); see 1915.1053[5]	1317–95–9			
Trydimite; see 1915.1053	15468–32–3			
* * * * *	*	*	*	*

MINERAL DUSTS

Substance	mppcf[l]
SILICA:	
Crystalline	250 [N]
Quartz. Threshold Limit calculated from the formula [P]	% SiO^2+5
* * * * *	*
* * * * *	*

[5] See Mineral Dusts table for the exposure limit for any operations or sectors where the exposure limit in § 1915.1053 is stayed or is otherwise not in effect.

* The PELs are 8-hour TWAs unless otherwise noted; a (C) designation denotes a ceiling limit. They are to be determined from breathing-zone air samples.

[a] Parts of vapor or gas per million parts of contaminated air by volume at 25 °C and 760 torr.

[b] Milligrams of substance per cubic meter of air. When entry is in this column only, the value is exact; when listed with a ppm entry, it is approximate.

* * * * * * *

[P] This standard applies to any operations or sectors for which the respirable crystalline silica standard, 1915.1053, is stayed or otherwise is not in effect.